

Attachment 8

			number of feeder legs in a CBG.
BX	# DLC-S Fibers this BG	=IF(AW2="DLC-S",BW2,0)	Determines the number of fibers in the main feeder route serving small DLC systems in a Block Group ("BG"), i.e. a census block group.
BY	Total # DLC-S Fibers in Main Feeder Segment	=IF(BB2=0,0,IF(AK3=1,BX2,IF(BB2=BB3,BY3,IF(AND(BB2<672*ElectronicFill,BX2=4),(CEILING(BB2/(672*ElectronicFill),1))*4,BX2+BY3))))	Determines the total number of fibers in the main feeder segment serving small DLC systems adjusted for electronic fill.
BZ	# DLC-L Fibers this BG	=IF(AW2="DLC-L",BW2,0)	Determines whether a block group/census block group is served by large DLC (DLC-L) systems. If the CBG is served by DLC-L it counts the total number of fibers for the CBG.
CA	Total # DLC-L Main Feeder Segment Fibers	=IF(BA2=0,0,IF(AK3=1,BZ2,IF(BA2=BA3,CA3,CA3+BZ2)))	Determines whether any lines are served by DLC-L systems. If a CBG is served by DLC-L and is CBG the closest to the CO the Total number of DLC-L main feeder segment fibers equals the number DLC-L fibers in the CBG. For all other CBG's
CB	Number of Main Feeder Segment Fibers Required	=CA2+BY2	This formula adds total number of DLC-S fibers in the main feeder segment and the total number of DLC-L fibers in the main feeder segment to determine the number of main feeder segment fibers required in the CBG.
CC	Number of Main Feeder Maximum Size Fiber Cables	=TRUNC(IF(CB2>MaxFiberSize,CB2/MaxFiberSize,0))	If the number of fibers required in the main feeder segment is greater than the maximum fiber cable size this formula truncates the number. If it is less than the maximum fiber cable size the formula reports a zero.
CD	Last Main Feeder Fiber Cable Size	=IF(CB2=0,0,INDEX(FiberCableSize,MATCH(CB2-(MaxFiberSize*CC2),FiberCableSize,-1),1))	This formula determines the size of the main feeder fiber cable based on the number of main segment fibers required. It selects next largest fiber cable size that matches the number of residual main feeder segment fibers
CE	Subfeeder Fiber Size	=IF(OR(AA2=0,AW2="Cable"),"N/A",INDEX(FiberCableSize,MATCH(BW2,FiberCableSize,-1),1))	This formula determines whether there is fiber subfeeder in the CBG. If there is fiber subfeeder it selects the next

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			largest cable size for the total number of fibers for the CBG (BU3).
CF	Switched Lines in CBG	=V2-AU2	Total switched lines equals the total CBG lines served minus the special access lines in the CBG.
CG	Switched Lines Equipped	=CF2/SwitchFillFactor	This formula calculates the number lines for which equipment must be sized by dividing the switched lines in the CBG by the switch fill factor.
CH	Is Main Feeder Segment copper only?	=IF(CD2>0,"NO","YES")	If Last Main Feeder Fiber Cable Size is greater than 0, then Main feeder segment is not copper only and the formula returns a "No" to the cell, otherwise the formula returns a "Yes" to the cell.
CI	Main Feeder Segment B Underground Distance	=IF(CH2="YES",VLOOKUP(U2,CopperPlantMixTable,2),VLOOKUP(U2,FiberPlantMixTable,2))*AJ2	This formula calculates the length of the underground portion for copper, if the main feeder segment is copper only and fiber cable if the feeder segment is not copper only. The Main Feeder Segment Total Distance is multiplied by proportion of copper or fiber that is underground.
CJ	Main Feeder Segment B Installed Underground Copper \$	=IF(BE2=0,0,CI2*(VLOOKUP(BE2,FeederCableCost,2,FALSE)+(BD2*VLOOKUP(MaxFeederSize,FeederCableCost,2,FALSE))))*CopperCostRatio	This formula calculates the cost of the B segment underground copper cable.
CK	Main Feeder Segment B Buried Distance	=IF(CH2="YES",VLOOKUP(U2,CopperPlantMixTable,3),VLOOKUP(U2,FiberPlantMixTable,3))*AJ2	This formula calculates the length of the buried portion for copper, if the main feeder segment is copper only and fiber cable if the feeder segment is not copper only. The Main Feeder Segment Total Distance is multiplied by proportion of copper or fiber that is buried.
CL	Main Feeder Segment B Installed Buried Copper \$	=IF(BE2=0,0,CK2*(VLOOKUP(BE2,FeederCableCost,3,FALSE)+(BD2*VLOOKUP(MaxFeederSize,FeederCableCost,3,FALSE))))*CopperCostRatio	This formula calculates the cost of the B segment buried copper cable.

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CM	Main Feeder Segment B Aerial Distance	=IF(CH2="YES",VLOOKUP(U2,CopperPlantMixTable,4),VLOOKUP(U2,FiberPlantMixTable,4))*AJ2	This formula calculates the length of the aerial portion for copper, if the main feeder segment is copper only and fiber cable if the feeder segment is not copper only. The Main Feeder Segment
			Total Distance is multiplied by proportion of copper or fiber that is aerial.
CN	Main Feeder Segment B Installed Aerial Copper \$	=IF(BE2=0,0,CM2*(VLOOKUP(BE2,FeederCableCost,4,FALSE)+(BD2*VLOOKUP(MaxFeederSize,FeederCableCost,4,FALSE)))*CopperCostRatio	This formula calculates the cost of the B segment aerial copper cable.
CO	Total Main Feeder Segment B Copper \$	=CJ2+CL2+CN2	Calculates total segment B copper cost.
CP	Number of Ducts in Segment B run	=IF(BE2>0,1,0)+BD2+IF(CD2>0,1,0)+IF(J2="",0,1)	Determines the number of segment B ducts required by adding the Residual Copper Main Feeder Size, the Number of Max Size Main Feeder Copper Cables, Last Main Feeder Fiber Cable Size plus one for spare.
CQ	Cost per manhole for segment B	=IF(CP2<=9,VLOOKUP(CP2,ConduitManholeTable,VLOOKUP(AH2,SurfaceConditionTable,2)),VLOOKUP(5,ConduitManholeTable,VLOOKUP(AH2,SurfaceConditionTable,2))+TRUNC(CP2/9)*VLOOKUP(99,ConduitManholeTable,VLOOKUP(AH2,SurfaceConditionTable,2)))	This formula calculates the cost of per segment B manhole based on the number of ducts in segment B, the surface condition and the fiber depth condition.
CR	Number of manholes in segment B run	=CEILING(CI2/VLOOKUP(U2,SpacingTable,2),1)+IF(J2="",0,IF(AK2=1,1,0))	Determines the number of manholes required in a segment B run where the Main Feeder Segment B Underground Distance is divided by the density specific manhole spacing plus 1 for the CBG closest to the CO.
CS	Number of poles in segment B run	=CEILING(CM2/VLOOKUP(U2,SpacingTable,3),1)+IF(J2="",0,1)	Determines the number of poles required in a segment B run where the Main Feeder Segment B Aerial Distance is divided by the density specific pole spacing plus 1 to prevent having a CBG with one pole.

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CT	Main Feeder Underground Segment B Total Structure \$	=A12*(CQ2*CR2+C12*(CP2*Conduitperductfoot+IF(AH2=1,VLOOKUP(U2,HardRockStructure,2),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,2),VLOOKUP(U2,NormalStructure,2))))))	This formula calculates the Main Feeder Underground Segment B Total Structure \$ by multiplying the sum of manhole and conduit costs (adjusted hardrock, softrock or normal terrain conditions) by New Terrain and Water Cost Multiplier.
CU	Main Feeder Buried Segment B Total Structure \$	=A12*CK2*IF(CH2="YES",IF(AG2=1,VLOOKUP(U2,HardRockStructure,4),IF(OR(AG2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,4),VLOOKUP(U2,NormalStructure,4))),IF(AH2=1,VLOOKUP(U2,HardRockStructure,4),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,4),VLOOKUP(U2,NormalStructure,4))))))	This formula calculates the Main Feeder Buried Segment B Total Structure \$ by multiplying the density specific terrain adjusted costs per foot by New Terrain and Water Cost Multiplier and the Main Feeder Segment B Buried Distance.
CV	Main Feeder Aerial Segment B Total Structure \$	=A12*CS2*(IF(AH2=1,VLOOKUP(U2,HardRockStructure,6),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,6),VLOOKUP(U2,NormalStructure,6))))	This formula calculates the Main Feeder Aerial Segment B Total Structure \$ by multiplying the terrain adjusted aerial unit costs by New Terrain and Water Cost Multiplier and the Number of Poles in segment B run.
CW	Total Main Feeder Segment B Structure \$	=SUM(CT2:CV2)	This formula determines the Total Main Feeder Segment B Structure \$ by adding the structure cost of the underground and aerial portions of the segment B run.
CX	Copper Main Feeder Cost per Line	=IF(AZ2=0,0,(CO2+CW2*BF2)/AZ2)	This formula determines the Copper Main Feeder Cost per line by dividing the sum of Total Main Feeder Segment B Copper \$ and Total Main Feeder Segment B Structure \$ * Copper Cable Structure % by the Total Lines on Copper.
CY	Cumulative Main Feeder Copper Cost per Line	=SUM(INDIRECT("cx"&ROW(CX2)&":cx"&MATCH(\$AN2,CLLIQuads,0)+1))	This formula sums the Copper Main Feeder Cost per line for matching CLLIQuads.
CZ	Main Feeder Copper \$ Allocated this CBG	=IF(AW2="Cable",V2*CY2,0)	Main Feeder Copper \$ Allocated this CBG is determined by multiplying the total lines served in the CBG by the cumulative main Feeder Copper Cost per line if segment

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			type 1 is cable. If segment type 1 is not cable the formula returns a value of zero.
DA	Subfeeder Cable Segment A Underground Distance	=IF(OR(AA2=0,BH2=0),0,VLOOKUP(U2,CopperPlantMixTable,2)*AA2)	This formula calculates the Subfeeder Cable Segment A underground Distance as long as neither the "A" Sub Feeder Distance or Subfeeder (A Segment) copper feeder pairs needed are not zero. The Subfeeder Cable Segment A underground Distance equals the "A" Sub Feeder Distance multiplied by the density specific percent underground factor.
DB	Subfeeder Underground Cable Segment A Copper \$	=IF(OR(AA2=0,BJ2=0),0,DA2*(VLOOKUP(BJ2,FeederCableCost,2,FALSE)))*CopperCostRatio	If either the distance "A" or "A" feeder cable size are not zero, multiply the "A" distance by the price per foot times 1-the % discount (the default discount is zero).
DC	Subfeeder Cable Segment A Buried Distance	=IF(OR(AA2=0,BH2=0),0,VLOOKUP(U2,CopperPlantMixTable,3)*AA2)	This formula calculates the Subfeeder Cable Segment A Buried Distance as long as neither the "A" Sub Feeder Distance or Subfeeder (A Segment) copper feeder pairs needed are not zero. The Subfeeder Cable Segment A buried Distance equals the "A" Sub Feeder Distance multiplied by the density specific percent buried factor.
DD	Subfeeder Buried Cable Segment A Copper \$	=IF(OR(AA2=0,BJ2=0),0,DC2*(VLOOKUP(BJ2,FeederCableCost,3,FALSE)))*CopperCostRatio	If either the distance "A" or "A" feeder cable size are not zero, multiply the "A" distance by the price per foot times 1-the % discount (the default discount is zero).
DE	Subfeeder Cable Segment A Aerial Distance	=IF(OR(AA2=0,BH2=0),0,VLOOKUP(U2,CopperPlantMixTable,4)*AA2)	This formula calculates the Subfeeder Cable Segment A Aerial Distance as long as neither the "A" Sub Feeder Distance or Subfeeder (A Segment) copper feeder pairs needed are not zero. The Subfeeder Cable Segment A aerial Distance equals the "A" Sub Feeder Distance multiplied by the density specific percent aerial factor.
DF	Subfeeder Aerial Cable Segment A Copper \$	=IF(OR(AA2=0,BJ2=0),0,DE2*(VLOOKUP(BJ2,FeederCableCost,4,FALSE)))*CopperCostRatio	If either the distance "A" or "A" feeder cable size are not zero, multiply the "A" distance by the price per foot times 1-the % discount (the default discount is zero).

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DG	Total Subfeeder Segment A Copper Cable \$	=DB2+DD2+DF2	This formula calculates the total segment A copper cost.
DH	Number of Ducts in Segment A run	=IF(AA2=0,0,2+BI2)	If the distance "A" is not zero the number of ducts in a run equals 2 times the number of Max Size Subfeeder Copper cables.
DI	Cost per manhole for segment A	=IF(DH2=0,0,IF(DH2<=9,VLOOKUP(DH2,ConduitManholeTable,VLOOKUP(AH2,SurfaceConditionTable,2)),VLOOKUP(5,ConduitManholeTable,VLOOKUP(AH2,SurfaceConditionTable,2))+TRUNC(DH2/9)*VLOOKUP(99,ConduitManholeTable,VLOOKUP(AH2,SurfaceConditionTable,2))))	This formula calculates the cost of per segment A manhole based on the number of ducts in segment A, the surface condition and the fiber depth condition.
DJ	Number of manholes in segment A run	=IF(DH2=0,0,CEILING(DA2/VLOOKUP(U2,SpacingTable,2),1)+IF(AK2=1,1,0))	Determines the number of manholes required in a segment A run where the Subfeeder Segment A Underground Distance is divided by the density specific manhole spacing plus 1 for the CBG closest to the CO.
DK	Number of poles in segment A run	=IF(AA2=0,0,CEILING(DE2/VLOOKUP(U2,SpacingTable,3),1)+1)	Determines the number of poles required in a segment A run where the Subfeeder Segment A Aerial Distance is divided by the density specific pole spacing plus 1 to prevent having a CBG with one pole.
DL	Total Subfeeder Segment A Underground Structure \$	=IF(DH2=0,0,AI2*(DI2*DJ2+DA2*(DH2*Conduitperductfoot+IF(AH2=1,VLOOKUP(U2,HardRockStructure,2),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,2),VLOOKUP(U2,NormalStructure,2))))))	This formula calculates the Subfeeder Underground Segment A Total Structure \$ by multiplying the sum of manhole and conduit costs (adjusted for hardrock, softrock or normal terrain conditions) by New Terrain and Water Cost Multiplier.
DM	Total Subfeeder Segment A Buried Structure \$	=IF(AA2=0,0,AI2*DC2*IF(AW2="Cable",IF(AG2=1,VLOOKUP(U2,HardRockStructure,4),IF(OR(AG2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,4),VLOOKUP(U2,NormalStructure,4))),IF(AH2=1,VLOOKUP(U2,NormalStructure,4))))	This formula calculates the Subfeeder Buried Segment A Total Structure \$ by multiplying the density specific terrain adjusted costs per foot by New Terrain and Water Cost Multiplier and the Subfeeder Segment A Buried Distance.

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		UP(U2,HardRockStructure,4),	
		IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,4),VLOOKUP(U2,NormalStructure,4))))))	
DN	Total Subfeeder Segment A Aerial Structure \$	=IF(DK2=0,0,AI2*DK2*(IF(AH2=1,VLOOKUP(U2,HardRockStructure,6),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,6),VLOOKUP(U2,NormalStructure,6))))))	This formula calculates the Total Subfeeder Aerial Segment A Structure \$ by multiplying the terrain adjusted aerial unit costs by New Terrain and Water Cost Multiplier and the Number of Poles in segment A run.
DO	Total Subfeeder Segment A Structure \$	=SUM(DL2:DN2)	This formula determines the Total Subfeeder Segment A Structure \$ by adding the structure cost of the underground buried and aerial portions of the segment A run.
DP	Total Subfeeder Segment A Copper Structure \$	=IF(AW2="Cable",DO2,0)	If Segment Type 1 is Cable the Total Subfeeder Segment A Copper Structure \$ equals Total Subfeeder Segment A Structure \$, otherwise It is zero.
DQ	Total Copper & T1 Related Feeder Cost Assigned this CBG	=CZ2+DG2+DP2+IF(AW2="Cable",CEILING(AV2/24,1)*CopperT1,0)	The Total Copper & T1 Related Feeder Cost Assigned this CBG equals the sum of Main Feeder Copper \$ Allocated this CBG, Total Subfeeder Segment A Copper Cable \$, Total Subfeeder Segment A Copper Structure \$, and if Segment Type 1 equals Cable the number of DS-1s * the cost per DS-1 on Copper. If Segment Type 1 is not Cable then it adds zero.
DR	Underground Fiber Main Feeder distance	=IF(CH2="YES",0,CI2)	If the Main Feeder segment is copper only then this is zero, otherwise it equals the Main Feeder Segment B Underground Distance.
DS	Underground Fiber Main Feeder Material \$	=IF(DR2=0,0,DR2*(VLOOKUP(CD2,FiberCableCost,2,FALSE)+(CC2*VLOOKUP(MaxFiberSize,FiberCableCost,2))))*FiberCostRatio	If Underground Fiber Main Feeder Distance is zero then this equals zero. If it is not zero the Underground Fiber Main Feeder Material \$ is calculated by multiplying the Underground Fiber

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			Main Feeder Distance by the cost for the appropriate Fiber cable size plus the cost associated with the Number of Main Feeder Maximum Size Fiber Cables. The total is then multiplied by Fiber Cost Ratio or Discount (default value = 0).
DT	Buried Fiber Main Feeder Distance	=IF(CH2="YES",0,CK2)	The Buried Fiber Main Feeder Distance equals the Main Feeder Segment B Buried Distance unless the Main Feeder Segment is copper only which results in the Buried Fiber Main Feeder Distance being zero.
DU	Buried Fiber Main Feeder Material \$	=IF(DT2=0,0,DT2*(VLOOKUP(CD2,FiberCableCost,3,FALSE)+(CC2*VLOOKUP(MaxFiberSize,FiberCableCost,3))))*FiberCostRatio	If Buried Fiber Main Feeder Distance is zero then this equals zero. If it is not zero the Buried Fiber Main Feeder Material \$ is calculated by multiplying the Buried Fiber Main Feeder Distance
			by the cost for the appropriate Fiber cable size plus the cost associated with the Number of Main Feeder Maximum Size Fiber Cables. The total is then multiplied by Fiber Cost Ratio or Discount (default value = 0).
DV	Aerial Fiber Main Feeder Distance	=IF(CH2="YES",0,CM2)	The Aerial Fiber Main Feeder Distance equals the Main Feeder Segment B Aerial Distance unless the Main Feeder Segment is copper only which results in the Aerial Fiber Main Feeder Distance equaling zero.
DW	Aerial Fiber Main Feeder Material \$	=IF(DV2=0,0,DV2*(VLOOKUP(CD2,FiberCableCost,4,FALSE)+(CC2*VLOOKUP(MaxFiberSize,FiberCableCost,4))))*FiberCostRatio	If Aerial Fiber Main Feeder Distance is zero then this equals zero. If it is not zero the Aerial Fiber Main Feeder Material \$ is calculated by multiplying the Aerial Fiber Main Feeder Distance
			by the cost for the appropriate Fiber cable size plus the cost associated with the Number of Main Feeder Maximum Size Fiber Cables. The total is then multiplied by Fiber Cost Ratio or Discount (default value = 0).
DX	Total Fiber Main Feeder Material \$	=DS2+DU2+DW2	Total Fiber Main Feeder Material \$ equals the sum of Underground Fiber Main Feeder Material \$, Buried Fiber Main Feeder Material \$ and Aerial Fiber Main Feeder Material \$.

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DY	Underground Fiber Main Feeder Structure \$	=IF(CH2="YES",0,CT2*BG2)	If the Main Feeder segment is Copper only Underground Fiber Main Feeder Structure \$ equals zero. If not copper only then the Underground Fiber Main Feeder Structure \$ equals the Main
			Feeder Underground Segment B Total Structure \$ multiplied by the Fiber Structure %.
DZ	Buried Fiber Main Feeder Structure \$	=IF(CH2="YES",0,CU2*BG2)	If the Main Feeder segment is Copper only Buried Fiber Main Feeder Structure \$ equals zero. If not copper only then the Buried Fiber Main Feeder Structure \$ equals the Main Feeder Buried Segment B Total Structure \$ multiplied by the Fiber Structure %.
EA	Aerial Fiber Main Feeder Structure \$	=IF(CH2="YES",0,CV2*BG2)	If the Main Feeder segment is Copper only Aerial Fiber Main Feeder Structure \$ equals zero. If not copper only then the Aerial Fiber Main Feeder Structure \$ equals the Main Feeder Aerial Segment B Total Structure \$ multiplied by the Fiber Structure %.
EB	Total Fiber Main Feeder Structure \$	=SUM(DY2:EA2)	Total Fiber Main Feeder Structure \$ equals the sum of Underground, Buried and Aerial Main Feeder Structure \$.
EC	Main Feeder Fiber Cost per Fiber	=IF(CB2=0,0,(DX2+EB2)/CB2)	Main Feeder Fiber Cost per Fiber equals zero if the Number of Main Feeder Segment Fibers Required equals zero. If the Number of Main Feeder Segment Fibers Required is not zero then Main Feeder Fiber Cost equals the sum of Total Fiber
			Main Feeder Material \$ and Total Fiber Main Feeder Structure \$ divided by the Number of Main Feeder Segment Fibers Required.
ED	Main Feeder Fiber Cumulative Cost per Fiber	=SUM(INDIRECT("ec"&ROW(EC2)&":ec"&MATCH(\$AN2,ClllQuad,0)+1))	This calculation accumulates the cost per Fiber of the CBG in a Quadrant from the office to the current CBG.
EE	Main Feeder Fiber Costs Allocated to this CBG for DLC-S	=BX2*ED2	Main Feeder Fiber Costs Allocated to this CBG for DLC-S equals the # DLC-S fibers this BG multiplied by Main Feeder Fiber Cumulative Cost per Fiber.

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EF	Main Feeder Fiber Costs Allocated to this CBG for DLC-L	=BZ2*ED2	Main Feeder Fiber Costs Allocated to this CBG for DLC-L equals the # DLC-L fibers this BG multiplied by Main Feeder Fiber Cumulative Cost per Fiber.
EG	Underground Fiber Subfeeder Distance	=IF(CE2="N/A",0,VLOOKUP(U2,FiberPlantMixTable,2)*AA2)	If Subfeeder Fiber Size equals "N/A" then Underground Fiber Subfeeder Distance equals zero. If not zero then Underground Fiber Subfeeder Distance equals the "A" Sub Feeder Distance multiplied by the density specific underground percent of fiber.
EH	Underground Fiber Subfeeder Material \$	=IF(EG2=0,0,EG2*(VLOOKUP(CE2,FiberCableCost,2,FALSE)*FiberCostRatio))	If Underground Fiber Subfeeder Distance is zero then Underground Fiber Subfeeder Material \$ equals zero. If not zero the Underground Fiber Subfeeder Material \$ is calculated by multiplying the Underground Fiber Subfeeder Distance by the cost for the appropriate fiber cable size plus the cost associated with the Number of Main Feeder Maximum Size Fiber Cables. The total is then multiplied by Fiber Cost Ratio or Discount (default value = 0).
EI	Buried Fiber Subfeeder Distance	=IF(CE2="N/A",0,VLOOKUP(U2,FiberPlantMixTable,3)*AA2)	If Subfeeder Fiber Size equals "N/A" then Buried Fiber Subfeeder Distance equals zero. If not zero then Buried Fiber Subfeeder Distance equals the "A" Sub Feeder Distance multiplied by the density specific Buried percent of fiber.
EJ	Buried Fiber Subfeeder Material \$	=IF(EI2=0,0,EI2*(VLOOKUP(CE2,FiberCableCost,3,FALSE)*FiberCostRatio))	If Buried Fiber Subfeeder Distance is zero then Buried Fiber Subfeeder Material \$ equals zero. If not zero the Buried Fiber Subfeeder Material \$ is calculated by multiplying the Buried Fiber Subfeeder Distance by the cost for the appropriate fiber cable size plus the cost associated with the Number of Main Feeder Maximum Size Fiber Cables. The total is then multiplied by Fiber Cost Ratio or Discount (default value = 0).
EK	Aerial Fiber Subfeeder Distance	=IF(CE2="N/A",0,VLOOKUP(U2,FiberPlantMixTable,4)*AA2)	If Subfeeder Fiber Size equals "N/A" then Aerial Fiber Subfeeder Distance equals zero. If not zero then Aerial Fiber Subfeeder Distance equals the "A" Sub Feeder Distance multiplied by the density specific Aerial percent of fiber.

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		e,4)*AA2)	Fiber Subfeeder Distance equals the "A" Sub Feeder Distance multiplied by the density specific Aerial percent of fiber.
EL	Aerial Fiber Subfeeder Material \$	=IF(EK2=0,0,EK2*(VLOOKUP(CE2,FiberCableCost,4,FALSE)*FiberCostRatio))	If Aerial Fiber Subfeeder Distance is zero then Aerial Fiber Subfeeder Material \$ equals zero. If not zero the Aerial Fiber Subfeeder Material \$ is calculated by multiplying the Aerial Fiber Subfeeder Distance by the cost for the appropriate fiber cable size plus the cost associated with the Number of Main Feeder Maximum Size Fiber Cables. The total is then multiplied by Fiber Cost Ratio or Discount (default value = 0).
EM	Total Fiber Subfeeder Material \$	=EH2+EJ2+EL2	Total Fiber Subfeeder Material \$ equals the sum of Underground Fiber Subfeeder Material \$, Buried Fiber Subfeeder Material \$ and Aerial Fiber Subfeeder Material \$.
EN	Underground Fiber Subfeeder Structure \$	=IF(CE2="N/A",0,DL2)	If Subfeeder Fiber Size equals "N/A" then Underground Fiber Structure \$ equals zero. If not zero, then Underground Fiber Subfeeder Structure \$ equals Total Subfeeder Segment A Underground Structure \$.
EO	Buried Fiber Subfeeder Structure \$	=IF(CE2="N/A",0,DM2)	If Subfeeder Fiber Size equals "N/A" then Buried Fiber Structure \$ equals zero. If not zero, then Buried Fiber Subfeeder Structure \$ equals Total Subfeeder Segment A Buried Structure \$.
EP	Aerial Fiber Subfeeder Structure \$	=IF(CE2="N/A",0,DN2)	If Subfeeder Fiber Size equals "N/A" then Aerial Fiber Structure \$ equals zero. If not zero, then Aerial Fiber Subfeeder Structure \$ equals Total Subfeeder Segment A Aerial Structure \$.
EQ	Total Fiber Subfeeder Structure \$	=SUM(EN2:EP2)	Total Fiber Subfeeder Structure \$ equals the sum of Underground Fiber Subfeeder Structure \$, Buried Fiber Subfeeder Structure \$ and Aerial Fiber Subfeeder Structure \$.

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ER	Total Subfeeder Fiber \$ assigned DLC-L	=IF(AW2="DLC-L",EM2+EQ2,0)	If Segment Type 1 equals DLC-L then Total Subfeeder Fiber \$ assigned DLC-L equals Total Fiber Subfeeder Material \$ plus Total Fiber Subfeeder Structure \$. If Segment Type 1 does not equal DLC-L then Total Subfeeder Fiber \$ assigned DLC-L is zero.
ES	DLC-L on Fiber Electronics \$	=IF(AW2="DLC-L",DLC_LDiscount*BT2*(BP2*VLOOKUP(1335,DigitalCarrierCost,2)+BP2*2016*VLOOKUP(1335,DigitalCarrierCost,3)+VLOOKUP(BQ2,DigitalCarrierCost,2)+BQ2*VLOOKUP(BQ2,DigitalCarrierCost,3)+BS2*OpticsCost),0)	If Segment Type 1 equals DLC-L then DLC-L on Fiber Electronics \$ equals the (1-% DLC-L Discount) * Total # Terminal Locations in CBG * # DLC-L Systems at Full Capacity * the fixed cost per DLC-L system with min. capacity of 1335 lines + the total per line cost for systems at full capacity + the fixed cost for # Switched Lines in Overflow DLC-L Terminal + the per line cost for # Switched Lines in Overflow DLC-L Terminal + (# DS-3/DS-1 Units per Terminal Location * the Avg. Cost for each DS-3 for CO and field DS-3 to DS-1 multiplexers). If Segment Type 1 does not equal DLC-L then DLC-L on Fiber Electronics \$ equals zero.
ET	Total DLC-L on Fiber \$	=EF2+ER2+ESR2	Total DLC-L on Fiber \$ equals the sum of Main Feeder Fiber Cost Allocated to this CBG for DLC-L, Total Subfeeder Fiber \$ assigned DLC-L and DLC-L on Fiber Electronics \$.
EU	Total Subfeeder Fiber \$ assigned DLC-S	=IF(AW2="DLC-S",EM2+EQ2,0)	Total Subfeeder Fiber \$ assigned DLC-S equals Total Fiber Subfeeder Material \$ plus Total Fiber Subfeeder Structure \$ if Segment Type 1 equals DLC-S. If Segment Type 1 does not equal DLC-S then Total Subfeeder Fiber \$ assigned DLC-S equals zero.
EV	DLC-S on Fiber Electronics \$	=IF(AW2="DLC-S",DLC_SDiscount*BT2*(VLOOKUP(BO2,DigitalCarrierCost,2)+BO2*VLOOKUP(BO2,DigitalCarrierCost,3)),0)	If Segment Type 1 equals DLC-S then DLC-S on Fiber Electronics \$ equals (1-% DLC-S Discount) * the (Total # Terminal locations in CBG * the fixed cost for the # Voice Grade Lines Equipped per Terminal Location) + the total per line cost for the # Voice Grade Lines per Terminal Location. If Segment type 1 does not equal DLC-S then DLC-S on Fiber Electronics \$ equals zero.

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EW	Total DLC-S on Fiber \$	=EE2+EU2+EV2	Total DLC-S on Fiber \$ equals the sum of Main Feeder Fiber Cost Allocated to this CBG for DLC-S, Total Subfeeder Fiber \$ assigned DLC-S and DLC-S on Fiber Electronics \$.
EX	Number of FDI's per location at maximum capacity	=IF(BO2>3600,INT(BO2/3600),0)	If the # of Voice Grade Lines Equipped per Terminal Location is greater than 3600 Then the Number of FDI's per location at maximum capacity equals the integer value of the # of Voice Grade Lines Equipped per Terminal Location divided by 3600.
			If the # of Voice Grade Lines Equipped is less than 3600 then the Number of FDI's per location at maximum capacity is zero.
EY	Feeder Distribution Interface Cost	=BT2*(EX2*CapacityFDIcost+IF(BO2=0,0,VLOOKUP(BO2-(3600*EX2),FdiCostTable,2)))	Feeder Distribution Interface Cost equals the Total # Terminal Location in CBG * (the Number of FDI's per Location at Capacity * the total per line FDI capacity cost + the residual # Voice Grade Lines Equipped per Terminal Location multiplied by the per line FDI cost).
EZ	Subtotal Feeder Cost	=IF(V2=0,0,DQ2+ET2+EW2+EY2)	If Total CBG Lines Served equals zero then Subtotal Feeder Cost equals zero. If Total CBG lines Served is not zero then Subtotal feeder cost is the sum of Total Copper & T1 Related Feeder Cost Assigned this CBG, Total DLC-L on Fiber \$, Total DLC-S on Fiber \$ and Feeder Distribution Interface Cost.
FA	Fiber Feeder Extension Part 1 Length	=((AL2-1)/AL2)*Y2	This formula calculates the length of the vertical extension of the feeder in the CBG. It equals ((the Number of Feeder legs in CBG - 1)/Number Feeder Legs in CBG) * Segment D.
FB	Fiber Feeder Extension Part 1 # Fibers	=(INT(AL2/2))*BV2	The Fiber Feeder Extension Part 1 # Fibers equals the integer value of the Number of Feeder Legs in CBG/2 multiplied by the Total Number of Fibers per Feeder Leg.

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FC	# Max Size Fiber Feeder Extension Part 1 Cables	=TRUNC(IF(FB2>MaxFiberSize,FB2/MaxFiberSize,0))	If the Fiber Feeder Extension Part 1 # Fibers is greater than the maximum fiber cable size then the # Max Size Fiber Feeder Extension Part 1 Cables equals the truncated value of Fiber Feeder Extension Part 1 # fibers divided by the max fiber cable size. The formula returns a zero if the Fiber Feeder Extension Part 1 # Fibers is less than the max. fiber cable size.
FD	Last Fiber Fiber Feeder Extension Part 1 Cable Size	=IF(FB2>0,INDEX(FiberCableSize,MATCH(FB2-(MaxFiberSize*FC2),FiberCableSize,-1),1),0)	This formula calculates the size of the cable required for the residual number of Fiber Feeder Extension Part 1 # Fibers if the Fiber Feeder Extension Part 1 # Fibers is greater than zero.
FE	Aerial Fiber Feeder Extension Part 1 Distance	=VLOOKUP(U2,FiberPlantMixTable,4)*FA2	This formula calculates the distance of the aerial portion of the vertical extension of feeder in the CBG. The Fiber Feeder Extension Part 1 Length is multiplied by the density specific percent of aerial cable.
FF	Aerial Fiber Feeder Extension Part 1 Material \$	=IF(FE2=0,0,FE2*(VLOOKUP(FD2,FiberCableCost,4,FALSE)+(FC2*VLOOKUP(MaxFiberSize,FiberCableCost,4))))*FiberCostRatio	This formula calculates the Aerial fiber cable cost less discount, if applicable, of the vertical extension of the feeder in the CBG if the Aerial Fiber Feeder Extension Part 1 Distance does not equal zero.
FG	Buried Fiber Feeder Extension Part 1 Distance	=VLOOKUP(U2,FiberPlantMixTable,3)*FA2	This formula calculates the distance of the buried portion of the vertical extension of feeder in the CBG. The Fiber Feeder Extension Part 1 Length is multiplied by the density specific percent of buried cable.
FH	Buried Fiber Feeder Extension Part 1 Material \$	=IF(FG2=0,0,FG2*(VLOOKUP(FD2,FiberCableCost,3,FALSE)+(FC2*VLOOKUP(MaxFiberSize,FiberCableCost,3))))*FiberCostRatio	This formula calculates the Buried fiber cable cost less discount, if applicable, of the vertical extension of the feeder in the CBG if the Buried Fiber Feeder Extension Part 1 Distance does not equal zero.
FI	Underground Fiber Feeder Extension Part 1 Distance	=VLOOKUP(U2,FiberPlantMixTable,2)*FA2	This formula calculates the distance of the underground portion of the vertical extension of feeder in the CBG. The Fiber Feeder Extension Part 1 Length is multiplied by the density specific percent of underground cable.

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FJ	Underground Fiber Feeder Extension Part 1 Material \$	=IF(FI2=0,0,FI2*(VLOOKUP(FD2,FiberCableCost,2,FALSE)+(FC2*VLOOKUP(MaxFiberSize,FiberCableCost,2))))*FiberCostRatio	This formula calculates the Underground fiber cable cost less discount, if applicable, of the vertical extension of the feeder in the CBG if the Underground Fiber Feeder Extension Part 1 Distance does not equal zero.
FK	Total Feeder Extension Part 1 Material \$	=FF2+FH2+FJ2	Total Feeder Extension Part 1 Material \$ equals the sum of Aerial Fiber Feeder Extension Part 1 Material \$, Buried Fiber Feeder Extension Part 1 Material \$ and Underground Fiber feeder Extension Part 1 Material \$.
FL	Aerial Feeder Extension Part 1 Structure \$	=IF(FE2=0,0,CEILING(FE2/VLOOKUP(U2,SpacingTable,3),1)+1)*AI2*(IF(AH2=1,VLOOKUP(U2,HardRockStructure,6),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,6),VLOOKUP(U2,NormalStructure,6))))	This formula calculates density specific Aerial Feeder structure cost for the vertical feeder extension in the CBG if the Aerial Fiber Feeder Extension Part 1 Distance does not equal zero. The formula returns a value of zero if the distance
			equals zero. Structure costs include density specific terrain costs.
FM	Buried Feeder Extension Part 1 Structure \$	=IF(FG2=0,0,AI2*FG2*IF(AH2=1,VLOOKUP(U2,HardRockStructure,4),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,4),VLOOKUP(U2,NormalStructure,4))))	This formula calculates density specific Buried Feeder structure cost for the vertical feeder extension in the CBG if the Buried Fiber Feeder Extension Part 1 Distance does not equal zero. The formula returns a value of zero if the distance
			equals zero. Structure costs include density specific terrain costs.
FN	Underground Feeder Extension Part 1 Structure \$	=IF(FI2=0,0,AI2*((CEILING(FI2/VLOOKUP(U2,SpacingTable,2),1)+1)*VLOOKUP(0,ConduitManholeTable,VLOOKUP(AH2,SurfaceConditionTable,2))+FI2*(2*Conduitperductfoot+IF(AH2=1,VLOOKUP(U2,HardRockStructure,2),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,2),VLOOKUP(U2,NormalStructure,2))))))	This formula calculates density specific Underground Feeder structure cost for the vertical feeder extension in the CBG if the Underground Fiber Feeder Extension Part 1 Distance does not equal zero. The formula returns a value of zero if the
			distance equals zero. Structure costs include density specific terrain costs.

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FO	Total Feeder Extension Part 1 Structure \$	=SUM(FL2:FN2)	Total Feeder Extension Part 1 Structure \$ equal the sum of Aerial, Buried and Underground Feeder Extension Part 1 Structure \$.
FP	Total Cost Feeder Extension Part 1	=FK2+FO2	Total Cost Feeder Extension Part 1 equals Total Feeder Extension Part 1 Material \$ plus Total Feeder Extension Part 1 Structure \$.
FQ	# Max Size Fiber Feeder Extension Part 2 Cables	=TRUNC(IF(BV2>MaxFiberSize,BV2/MaxFiberSize,0))	If the Fiber Feeder Extension Part 2 # Fibers is greater than the maximum fiber cable size then the # Max Size Fiber Feeder Extension Part 2 Cables equals the truncated value of Fiber Feeder Extension Part 2 # fibers divided by the maximum fiber cable size. The formula returns a zero if the Fiber Feeder Extension Part 2 # Fibers is less than the maximum fiber cable size.
FR	Last Fiber Feeder Extension Part 2 Cable Size	=IF(BV2>0,INDEX(FiberCableSize,MATCH((BV2-(MaxFiberSize*FQ2)),FiberCableSize,-1),1),0)	This formula calculates the size of the residual Fiber Feeder Extension Part 2, which is the horizontal leg of the feeder in the CBG, if the Total Number of Fibers per feeder Leg is greater than zero. It determines the residual number of fibers by subtracting the number of fibers in the maximum size cables from the Total Number of Fibers per Feeder Leg. It then selects the smallest cable size greater than the number of residual fibers.
FS	Size Feeder Extension Part 2 (If Copper)	=IF(AW2="Cable",INDEX(FeederCableSize,MATCH(((V2-AV2+AV2/12)/AL2)/VLOOKUP(U2,DensityFillTable,2),FeederCableSize,-1),1),0)	If Segment Type 1 is cable this formula determines the size of the Feeder Extension by taking Total CBG Lines served and converting those Lines in the CBG Provisioned as DS-1s to Copper T-1 equivalents. It then divides the number of the adjusted lines served by the Number of Feeder legs in CBG to determine the number of lines per feeder leg. The number of lines per feeder leg is then divided by the a density specific fill factor to determine the required cable size. The formula then selects the smallest cable size greater than the number of lines calculated. If Segment Type 1 does not equal cable the formula returns a zero value.

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FT	Aerial Feeder Extension Part 2 Distance	=IF(AW2="Cable",VLOOKUP(U2,CopperPlantMixTable,4),VLOOKUP(U2,FiberPlantMixTable,4))*BM2	If Segment Type 1 equals Cable then this formula multiplies the Horizontal Fiber Feeder Cable Length by the percent of aerial copper cable to determine the distance. If Segment Type 1 does not equal zero it multiplies the Horizontal Fiber Feeder Cable Length by the percent of Aerial fiber cable to determine distance.
FU	Aerial Copper Feeder Extension Part 2 Material \$	=IF(FS2=0,0,FT2*AI2*AL2*CopperCostRatio*VLOOKUP(FS2,FeederCableCost,4,FALSE))	This formula calculates the Aerial copper cable cost less discount, if applicable, including adjustment by the New Terrain and Water Cost Multiplier of the horizontal extension of the feeder in the CBG if the Size Feeder Extension Part 2 (If Copper) does not equal zero. The Formula returns a zero value if Size Feeder Extension Part 2 (If Copper) equals zero
FV	Aerial Fiber Feeder Extension Part 2 Material \$	=IF(OR(FT2=0,FR2=0),0,FT2*(VLOOKUP(FR2,FiberCableCost,4,FALSE)+(FQ2*VLOOKUP(MaxFiberSize,FiberCableCost,4))))*AL2*FiberCostRatio	This formula calculates the Aerial Fiber cable cost less discount, if applicable, of the horizontal extension of the feeder in the CBG if the Aerial Feeder Extension Part 2 Distance does not equal zero.
FW	Buried Feeder Extension Part 2 Distance	=IF(AW2="Cable",VLOOKUP(U2,CopperPlantMixTable,3),VLOOKUP(U2,FiberPlantMixTable,3))*BM2	If Segment Type 1 equals Cable then this formula multiplies the Horizontal Fiber Feeder Cable Length by the density specific percent of buried copper cable to determine the distance. If Segment Type 1 does not equal cable it multiplies the Horizontal Fiber Feeder Cable Length by the density specific percent of buried fiber cable to determine distance.
FX	Buried Copper Feeder Extension Part 2 Material \$	=IF(FS2=0,0,FW2*AI2*AL2*CopperCostRatio*VLOOKUP(FS2,FeederCableCost,3,FALSE))	This formula calculates the Buried copper cable cost less discount, if applicable, of the horizontal extension of the feeder in the CBG if the Size Feeder Extension Part 2 (If Copper) does not equal zero.
FY	Buried Fiber Feeder Extension Part 2 Material \$	=IF(OR(FW2=0,FR2=0),0,FW2*(VLOOKUP(FR2,FiberCableCost,3,FALSE)+(FQ2*VLOOKUP(MaxFiberSize,FiberCableCost,3))))*AL2*FiberCostRatio	This formula calculates the Buried Fiber cable cost less discount, if applicable, of the horizontal extension of the feeder in the CBG if the Buried Feeder Extension Part 2 Distance does not equal zero.

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FZ	Underground Feeder Extension Part 2 Distance	=IF(AW2="Cable",VLOOKUP(U2,CopperPlantMixTable,2),VLOOKUP(U2,FiberPlantMixTable,2))*BM2	If Segment Type 1 equals Cable then this formula multiplies the Horizontal Fiber Feeder Cable Length by the density specific percent of underground copper cable to determine the distance. If Segment Type 1 does not equal cable it
			multiplies the Horizontal Fiber Feeder Cable Length by the density specific percent of underground fiber cable to determine distance.
GA	Underground Copper Feeder Extension Part 2 Material \$	=IF(FS2=0,0,FZ2*AI2*AL2*CopperCostRatio*VLOOKUP(FS2,FeederCableCost,2,FALSE))	This formula calculates the underground copper cable cost less discount, if applicable, of the horizontal extension of the feeder in the CBG if the Size Feeder Extension Part 2 (If Copper) does not equal zero. The formula returns a zero
			value if Size Feeder Extension Part 2 (If Copper) equals zero
GB	Underground Fiber Feeder Extension Part 2 Material \$	=IF(OR(FZ2=0,FR2=0),0,FZ2*(VLOOKUP(FR2,FiberCableCost,2,FALSE)+(FQ2*VLOOKUP(MaxFiberSize,FiberCableCost,2))))*AL2*FiberCostRatio	This formula calculates the Underground Fiber cable cost less discount, if applicable, of the horizontal extension of the feeder in the CBG if the Underground Feeder Extension Part 2 Distance does not equal zero. The formula returns a zero
			value if Underground Feeder Extension Part 2 Distance equals zero.
GC	Total Copper Feeder Extension Part 2 Material \$	=FU2+FX2+GA2	Total Copper Feeder Extension Part 2 Material \$ equals the sum of Aerial Copper Feeder Extension Part 2 Material \$, Buried Copper Feeder Extension Part 2 Material \$ and Underground Copper Feeder Extension Part 2 Material \$.
GD	Total Fiber Feeder Extension Part 2 Material \$	=FV2+FY2+GB2	Total Fiber Feeder Extension Part 2 Material \$ equals the sum of Aerial Fiber Feeder Extension Part 2 Material \$, Buried Fiber Feeder Extension Part 2 Material \$ and Underground Fiber Feeder Extension Part 2 Material \$.
GE	Aerial Feeder Extension Part 2 Structure \$	=IF(FT2=0,0,CEILING((FT2*AL2)/VLOOKUP(U2,SpacingTable,3),1)+1)*AI2*(IF(AH2=1,VLOOKUP(U2,HardRockStructure,6),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,6),VLOOKUP(U2,NormalStructure,6))))	This formula calculates density specific Aerial Feeder structure cost for the vertical feeder extension in the CBG if the Aerial Feeder Extension Part 2 Distance does not equal zero. The formula returns a value of zero if the distance

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			equals zero. Structure costs include density specific terrain costs.
GF	Buried Feeder Extension Part 2 Structure \$	=IF(FW2=0,0,AI2*FW2*AL2*IF(AH2=1,VLOOKUP(U2,HardRockStructure,4),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,4),VLOOKUP(U2,NormalStructure,4))))	This formula calculates density specific Buried Feeder structure cost for the vertical feeder extension in the CBG if the Buried Feeder Extension Part 2 Distance does not equal zero. The formula returns a value of zero if the distance
			equals zero. Structure costs include density specific terrain costs.
GG	Underground Feeder Extension Part 2 Structure \$	=IF(FZ2=0,0,AI2*FZ2*AL2*IF(AH2=1,VLOOKUP(U2,HardRockStructure,4),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,4),VLOOKUP(U2,NormalStructure,4))))	This formula calculates density specific Underground Feeder structure cost for the vertical feeder extension in the CBG if the Underground Feeder Extension Part 2 Distance does not equal zero. The formula returns a value of zero if the
			distance equals zero. Structure costs include density specific terrain costs.
GH	Total Feeder Extension Part 2 Structure \$	=SUM(GE2:GG2)	Total Feeder Extension Part 2 Structure \$ are the sum of Aerial Feeder Extension Part 2 Structure \$, Buried Feeder Extension Part 2 Structure \$ and Underground Feeder Extension Part 2 Structure \$.
GI	Total Feeder Extension Part 2 \$	=GC2+GD2+GH2	Total Feeder Extension Part 2 \$ is the sum of Total Copper Feeder Extension Part 2 Material \$, Total Fiber Feeder Extension Material \$ and Total Feeder Extension Part 2 Structure \$.
GJ	Grand Total Feeder Cost	=EZ2+FP2+GI2	Grand Total Feeder Cost is the sum of Subtotal feeder cost, Total Cost Feeder Extension Part 1 and Total Feeder Extension Part 2 \$.
GK	# Pairs required per Distribution Leg	=CEILING((((V2-AV2+AV2/12)/AL2)/VLOOKUP(U2,DensityFillTable,3))/(AR2*2),1)	The # Pairs required per Distribution Leg equals the (((Total CBG Lines Served minus the lines in CBG Provisioned as DS-1s plus Lines in CBG Provisioned as DS-1s/12)/Number of Feeder Legs in CBG)/Density specific Fill)/(Number of Distribution Legs *2).

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GL	# Max size Distribution Leg Cables	=IF(GK2>0,TRUNC(IF(GK2>MaxDistrSize,GK2/MaxDistrSize,0)),0)	If the # Pairs required per Distribution Leg is greater than zero then the # Max size Distribution Leg Cables equals the truncated # Pairs required per Distribution Leg divided by the maximum
			size distribution cable (3600) if the # of Pairs per Distribution Leg is greater than 3600. The formula returns a zero value if neither of the conditional test are true.
GM	Residual Copper Distribution Leg Cable Size	=IF(GK2>0,INDEX(DistrCableSize,MATCH(GK2-(MaxDistrSize*GL2),DistrCableSize,-1),1),0)	This formula determines the cable size required for the residual copper Distribution pairs, i.e. those pairs in excess of those served by the maximum distribution size cables.
GN	Fiber Distribution Leg Cable size	=IF(AND(NOT(AW2="Cable"),GM2=0),INDEX(FiberCableSize,MATCH(BU2/(2*AS2),FiberCableSize,-1),1),0)	If Segment Type 1 does not equal Cable and Copper Distribution Leg Cable Size equals zero then this formula determines the Fiber Distribution Leg Cable size. The cable size selected will be that cable which is the smallest cable
			greater than (# fibers Required per Terminal Location/(2*Number of Distribution Vertical Legs per terminal). If Segment type 1 equals Cable and Copper Distribution Leg Cable Size is not zero the formula returns a zero value.
GO	# Pairs per Horizontal Distribution Leg	=CEILING((((V2-AV2+AV2/12)/AL2)/VLOOKUP(U2,DensityFillTable,3))/(AT2*2),1)	The # Pairs per Horizontal Distribution Leg equals the (((Total CBG Lines Served minus the lines in CBG Provisioned as DS-1s plus Lines in CBG Provisioned as DS-1s/12)/Number of Feeder Legs in CBG)/Density specific Fill)/(Number of
			Terminal Locations per Feeder Leg*2). The result of this formula is rounded up.
GP	Last Horizontal Distribution Copper Cable Size	=IF(GM2>0,INDEX(DistrCableSize,MATCH(GO2-(MaxDistrSize*GQ2),DistrCableSize,-1),1),0)	This formula calculates the residual horizontal cable size if Copper Distribution Leg Cable Size is greater than zero. The cable size is the smallest size great than # pairs per Horizontal Distribution Leg minus the maximum distribution
			cable size multiplied # Max Horizontal Copper Distribution Cables. Last Horizontal Distribution Leg equals zero if Copper Distribution Leg Cable Size equals zero.

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GQ	# Max Horizontal Copper Distribution Cables	=IF(GM2>0,TRUNC(IF(GO2>MaxDistrSize,GO2/MaxDistrSize,0)),0)	If the Copper Distribution Leg Cable Size is greater than zero and if it is greater than Maximum Distribution cable Size then the # Max Horizontal Copper Distribution Cables equals # Pairs per Horizontal Distribution Leg divided by the Maximum Distribution Cable Size.
GR	Last Horizontal Fiber Distribution Cable Size	=IF(GN2>0,INDEX(FiberCableSize,MATCH((BU2/2)-(MaxFiberSize*GS2),FiberCableSize,-1),1),0)	This formula calculates the residual Horizontal Fiber Distribution Cable Size if the Fiber Distribution Leg Cable Size is greater than zero. The cable size equals the # Fibers Required per Terminal Location divided by 2 minus # Max Size Horizontal Fiber Distribution Cables multiplied by the maximum fiber cable size.
GS	# Max Size Horizontal Fiber Distribution Cables	=IF(GN2>0,TRUNC(IF((BU2/2)>MaxFiberSize,(BU2/2)/MaxFiberSize,0)),0)	If the Fiber Distribution Leg Cable Size is greater than zero then the # Max Size Horizontal Fiber Distribution Cables equals the (# Fibers Required per Terminal Location/2)/maximum fiber cable size if (# Fibers Required per Terminal Location /2) is greater than MaxFiber Size. If the Fiber Distribution Leg Cable Size equals zero or (# Fibers Required per Terminal Location/2) is less than MaxFiberSize the formula returns a zero value.
GT	Feeder Length within CBG	=BM2+FA2/2-(AD2*AQ2*(AT2-1)/2)	Feeder Length within CBG equals the Horizontal Fiber Feeder Cable Length plus Fiber Feeder Extension Part 1 Length divided by 2.
GU	Total Feeder Length	=W2+AA2+GT2	Total Feeder Length is the sum of Total "B" Distance, "A" Sub Feeder Distance and Feeder Length within CBG.
GV	Total Distribution Length	=BL2+AO2/2	Total Distribution Length equals Longest Actual Horizontal Copper Distribution Distance plus Distribution Vertical Distance per Feeder divided by 2.
GW	Total # Pedestals in CBG	=IF(J2="",0,AR2*AR2)	Total # Pedestals in CBG equals the Number of Distribution Legs squared.

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GX	Length To Center of a Lot	=AD2*0.5*SQRT(2)	Length to the Center of a Lot equals Base Lot Side Length multiplied by .5 multiplied by the square root of 2.
GY	Total Aerial Distribution Horizontal Distance	=IF(BN2=0,0,BN2*VLOOKUP(U2,DistributionPlantMixTable,4))	Total Aerial Distribution Horizontal Distance equals Total Horizontal Copper Cable Length multiplied by the density specific percentage of aerial cable. If Total Horizontal cable length is zero then Total Aerial Distribution Horizontal Distance is zero.
GZ	Total Aerial Distribution Vertical Distance	=AL2*AO2*AR2*VLOOKUP(U2,DistributionPlantMixTable,4)	Total Aerial Distribution Vertical Distance equals the Number of Feeder Legs in CBG multiplied by the Distribution Vertical Distance per Feeder multiplied by the Number of Distribution legs multiplied by the density specific percentage of Aerial cable.
HA	Aerial Distribution Copper Material \$	=CopperCostRatio*(IF(GM2=0,0,GZ2*(VLOOKUP(GM2,DistrCableCost,4,FALSE)+GL2*VLOOKUP(MaxDistrSize,DistrCableCost,4)))+IF(GP2=0,0,GY2*(VLOOKUP(GP2,DistrCableCost,4,FALSE)+GQ2*VLOOKUP(MaxDistrSize,DistrCableCost,4)))	Aerial Distribution Copper material \$ equals Total Aerial Distribution Vertical Distance multiplied by the Distribution cable cost for Copper Distribution Leg Cable Size plus Total Aerial Distribution Horizontal Distance multiplied by the Last
			Horizontal Distribution Copper Cable Size. The sum of these cable costs are multiplied by 1 minus the copper cable cost discount, if applicable. The formula returns a zero value for the vertical cable cost if the Copper Distribution Leg Cable
			Size equals zero and for the Horizontal cable cost if the Last Horizontal Distribution Cable Size equals zero.
HB	Total Buried Distribution Horizontal Distance	=IF(BN2=0,0,BN2*VLOOKUP(U2,DistributionPlantMixTable,3))	Total Buried Distribution Horizontal Distance is calculated by multiplying the Total Horizontal Copper Cable Length by the density specific percentage of buried cable.
HC	Total Buried Distribution Vertical Distance	=AL2*AO2*AR2*VLOOKUP(U2,DistributionPlantMixTable,3)	Total Buried Distribution Vertical Distance is calculated by multiplying the Number of Feeder Legs in CBG by Distribution Vertical Distance per Feeder by the Number of Distribution legs by the density specific percentage of aerial cable.

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HD	Buried Distribution Copper Material \$	=CopperCostRatio*(IF(GM2=0,0,HC2*VLOOKUP(GM2,DistrCableCost,3,FALSE)+GL2*VLOOKUP(MaxDistrSize,DistrCableCost,3))+IF(GP2=0,0,HB2*VLOOKUP(GP2,DistrCableCost,3,FALSE)+GQ2*VLOOKUP(MaxDistrSize,DistrCableCost,3)))	Buried Distribution Copper material \$ equals Total Buried Distribution Vertical Distance multiplied by the Distribution cable cost for Copper Distribution Leg Cable Size plus Total Buried Distribution Horizontal Distance multiplied by the Last
			Horizontal Distribution Copper Cable Size. The sum of these cable costs are multiplied by 1 minus the copper cable cost discount, if applicable. The formula returns a zero value for the vertical cable cost if the Copper Distribution Leg Cable
			Size equals zero and for the Horizontal cable cost if the Last Horizontal Distribution Cable Size equals zero.
HE	Total Underground Distribution Horizontal Distance	=IF(BN2=0,0,BN2*VLOOKUP(U2,DistributionPlantMixTable,2))	Total Underground Distribution Horizontal Distance equals Total Horizontal Copper Cable Length multiplied by the density specific percentage of underground cable. If Total Horizontal cable length is zero then Total Underground Distribution Horizontal Distance is zero.
HF	Total Underground Distribution Vertical Distance	=AL2*AO2*AR2*VLOOKUP(U2,DistributionPlantMixTable,2)	Total Underground Distribution Vertical Distance equals the Number of Feeder Legs in CBG multiplied by the Distribution Vertical Distance per Feeder multiplied by the Number of Distribution legs multiplied by the density specific percentage of Underground cable.
HG	Underground Distribution Copper Material \$	=CopperCostRatio*(IF(GP2=0,0,HF2*VLOOKUP(GP2,DistrCableCost,2,FALSE)+GL2*VLOOKUP(MaxDistrSize,DistrCableCost,2))+IF(GS2=0,0,HE2*VLOOKUP(GS2,DistrCableCost,2,FALSE)+GQ2*VLOOKUP(MaxDistrSize,DistrCableCost,2)))	Underground Distribution Copper material \$ equals Total Underground Distribution Vertical Distance multiplied by the Distribution cable cost for the Last Horizontal Distribution Copper Cable Size plus Total Underground Distribution Horizontal Distance multiplied by the cable cost for the # Max Size Horizontal Fiber Distribution Cable Size. The sum of these cable costs are multiplied by 1 minus the copper cable cost discount, if applicable.
			The formula returns a zero value for the vertical cable cost if the Last Horizontal Distribution Copper Cable Size equals

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			zero and for the Horizontal cable cost if the # Max Horizontal Copper Distribution Cable Size equals zero.
HH	Total Distribution Copper Material \$	=HA2+HD2+HG2	Total Distribution Copper Material \$ is the sum of Aerial Distribution Copper Material \$, Buried Distribution Copper Material \$ and Underground Distribution Copper Material \$.
HI	Aerial Distribution Fiber Material \$	=FiberCostRatio*(IF(GN2=0,0,GZ2*VLOOKUP(GN2,FiberCableCost,4,FALSE))+IF(GR2=0,0,GY2*VLOOKUP(GR2,FiberCableCost,4,FALSE))+GS2*GY2*VLOOKUP(MaxFiberSize,FiberCableCost,4))	Aerial Distribution Fiber Material \$ equals Total Aerial Distribution Vertical Distance multiplied by the cable cost corresponding to Fiber Distribution Leg Cable Size plus Total Aerial Distribution Horizontal Distance multiplied by the cable cost corresponding to the Last Horizontal Fiber Distribution Cable Size plus # Max Size Horizontal Fiber Distribution Cables multiplied Total Aerial Distribution Horizontal Distance multiplied by the cable cost for the maximum size cable.
			The sum of these cable costs are multiplied by 1 - the fiber cable cost Discount rate, if applicable. The formula returns a zero value for the vertical costs if the Fiber Distribution Leg Cable Size equals zero and for the Horizontal cost if the Last
			Horizontal Fiber Distribution Cable size equals zero.
HJ	Buried Distribution Fiber Material \$	=FiberCostRatio*(IF(GN2=0,0,HC2*VLOOKUP(GN2,FiberCableCost,3,FALSE))+IF(GR2=0,0,HB2*VLOOKUP(GR2,FiberCableCost,3,FALSE))+GS2*HB2*VLOOKUP(MaxFiberSize,FiberCableCost,3))	Buried Distribution Fiber material \$ equals Total Buried Distribution Vertical Distance multiplied by the Distribution cable cost for fiber Distribution Leg Cable Size plus Total Buried Distribution Horizontal Distance multiplied by the Last
			Horizontal Fiber Distribution Cable Size plus #Max Size Horizontal Fiber Distribution Cables multiplied by Total Buried Distribution Horizontal Distance multiplied by the fiber cable cost for the maximum size fiber cable.
			The sum of these cable costs are multiplied by 1 minus the copper cable cost discount, if applicable. The formula returns a zero value for the vertical cable cost if the Fiber Distribution
			Leg Cable Size equals zero and for the Horizontal cable cos

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			if the Last Horizontal Distribution Cable Size equals zero.
HK	Underground Distribution Fiber Material \$	=FiberCostRatio*(IF(GN2=0,0,HE2*VLOOKUP(GN2,FiberCableCost,2,FALSE))+IF(GR2=0,0,HE2*VLOOKUP(GR2,FiberCableCost,2,FALSE))+GS2*HE2*VLOOKUP(MaxFiberSize,FiberCableCost,2))	Underground Distribution Fiber Material \$ equals Total Underground Distribution Vertical Distance multiplied by the Distribution cable cost for the Fiber Distribution Leg Cable Size plus Total Underground Distribution Horizontal Distance multiplied by the cable cost for the Last Horizontal Fiber Distribution Cable Size plus # Max Size Horizontal Fiber Distribution Cables multiplied by Total Underground Distribution Horizontal Distance multiplied by the cable cost for the maximum size fiber cable. The sum of these cable costs are multiplied by 1 minus the copper cable cost discount, if applicable.
			The formula returns a zero value for the vertical cable cost if the Fiber Distribution Leg Cable Size equals zero and for the Horizontal cable cost if the Last Horizontal Fiber Distribution Cable Size equals zero.
HL	Total Distribution Fiber Material \$	=SUM(HI2:HK2)	Total Distribution Fiber Material is the sum of Aerial Distribution Fiber Material \$, Buried Distribution Fiber Material \$, and Underground Distribution Fiber Material \$.
HM	Aerial Distribution Structure \$	=IF((GY2+GZ2)=0,0,CEILING((GY2+GZ2)/VLOOKUP(U2,SpacingTable,3),1)+1)*AI2*(IF(AH2=1,VLOOKUP(U2,HardRockStructure,6),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,6),VLOOKUP(U2,NormalStructure,6))))	This formula calculates density specific Aerial Distribution structure cost if the sum of Total Aerial Distribution Horizontal Distance and Total Aerial Distribution Vertical Distance do not equal zero. The formula returns a value of zero if the distance equals zero. Structure costs include density specific terrain costs.
HN	Buried Distribution Structure \$	=IF((HB2+HC2)=0,0,AI2*(HB2+HC2)*IF(AH2=1,VLOOKUP(U2,HardRockStructure,4),IF(OR(AH2=2,AF2=1),VLOOKUP(U2,SoftRockStructure,4),VLOOKUP(U2,NormalStructure,4))))	This formula calculates density specific Buried Distribution structure cost if the sum of Total Buried Distribution Horizontal Distance and Total Buried Distribution Vertical Distance do not equal zero.
			The formula returns a value of zero if the distances equal